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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,338	09/09/2005	David L Light	07810.0118.00000	6749
22852	7590	09/14/2007		
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413			EXAMINER PARVINI, PEGAH	
			ART UNIT 1755	PAPER NUMBER
			MAIL DATE 09/14/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/518,338	LIGHT ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Pegah Parvini	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Specification***

2. The disclosure is objected to because of the following informalities: Tables 3 and 4 in pages 17 and 18 are fully and properly shown.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

3. The rejection of claims 1, 3-4, 6-7, 10-11, 13, and 20-25 under 35 U.S.C. 103(a) as being unpatentable over WO 00/66510 to Lyons et al. in view of WO 00/59840 to Golley et al. as generally set forth in the first Office Action mailed on March 12, 2007 is proper and stands.

It should be further noted that claim 13 is a product-by-process claim and regarding the product-by-process claims, MPEP § 2113 states:

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process."

4. The rejection of claim 2 under 35 U.S.C. 103(a) as being unpatentable over Lyons et al. in view of Golley et al. and further in view of US Patent No. 5,169,443 to

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Willis et al. as generally set forth in the first Office Action mailed on March 12, 2007 is proper and stands.

5. The rejection of claim 5 under 35 U.S.C. 103(a) as being unpatentable over Lyons et al. in view of Golley et al. and further in view of WO 00/32699 to Yuan et al. as generally set forth in the first Office Action mailed on March 12, 2007 is proper and stands.

6. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyons et al. in view of Golley et al. as applied to claims 1 and 7 above, and further in view of WO 02/16511 to Johns et al.

7. Regarding claims 8-12, Lyons et al. disclose a pigment composition for coating formulation for coating paper products with the properties as described in details above. Golley et al. disclose a coating composition for preparing gloss coated paper, especially lightweight and ultra-lightweight coated paper with the properties as described in details above.

Lyons et al. and Golley et al. are silent to the specific properties claimed in, specifically, claims 8-9 and 12 regarding shape factor and steepness.

Johns et al. disclose kaolin products and the process of their production, in particular, kaolin fillers used in making super-calendered (SC) papers and the process

of their production (page 1, lines 3-6). Johns et al., further, disclose that the steepness of the kaolin product is at least 32 (page 7, lines 13-24). In addition, Johns et al. teach that the kaolin particles in the product have a shape factor of at least 30 (page 7, lines 29-31).

At the time of the invention, it would have been obvious to modify Lyons et al. and Golley et al. to include the properties as disclosed by Johns et al. motivated by the fact that, as disclosed in Johns et al., the kaolin products having the combination of the defined values of steepness and shape factor give beneficially enhanced combination of high brightness and high porosity and thereby enhances printability (page 8, lines 22-30). Furthermore, motivated by the fact that the process of making said kaolin claimed by Johns et al. is substantially similar to the process disclosed by Golley et al. which are substantially similar to the process recited in the instant application.

Therefore, it would have been obvious to combine Lyons et al. with Golley et al. with Johns et al. to obtain the invention as claimed in claims 8-12.

8. Claims 14-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Golley et al. in view of WO 02/16511 to Johns et al.

9. Regarding claims 14-16 and 18, Golley et al. teach the process of producing the disclosed kaolin pigment in which first, the raw kaolin clay crude with naturally platy clay from a sedimentary deposit is mixed with water, then the slurry is diluted and subjected

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to attrition grinding using a grinding medium, then, the particulate kaolin separated from grinding medium and is subjected to particle size classification, and finally the suspension of the ground kaolin clay is dewatered (page 7, lines 26-31; page 8, lines 1-20; page 13, lines 28-31; page 14).

Although Golley et al. disclose that at least 80% by weight of the particles have the size of less than 2  $\mu\text{m}$  and between 12% to 35% by weight have the size of less than 0.25  $\mu\text{m}$ , and the shape factor increase by at least 10 or 15, Golley et al. does not disclose the steepness factor nor it expressly disclose the final shape factor.

Johns et al. disclose kaolin fillers for making super-calendered (SC) papers with steepness factor of at least 32 and shape factor of at least 30 (page 1, lines 3-6; page 7). In addition, Johns et al. teach that less than 10% having a particle size of less than 0.25  $\mu\text{m}$  (page 6). It is noted that claim 14 recites the language of "about" 15 % to "about" 20% being less than 0.25  $\mu\text{m}$ . Since no indication has been made as to what range the term "about" is referring to, the 10% disclosed by the reference is taken to read on the limitation of claim 14. Additionally, Johns et al. teach that at least 60% of the particles are less than 2  $\mu\text{m}$ , and not more than 7% greater than 10  $\mu\text{m}$  which would imply that 93% has the size of less than 10  $\mu\text{m}$  (page 6). Therefore, between 60% and 93% could have the size of less than 2  $\mu\text{m}$ , which reads on the limitation of claim 14.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify Golley et al. in order to include the shape factor and steepness as that disclosed by Johns et al. and to increase the shape factor by 10 or 15 to obtain the final shape factor of at least 30 as disclosed by Johns et al. motivated by the fact

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that both references disclose a substantially similar process of making and that Johns et al. disclose that the kaolin products having the combination of the defined values of steepness and shape factor give beneficially enhanced combination of high brightness and high porosity and thereby enhances printability (page 8, lines 22-30).

10. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Golley et al., and Johns et al. and further in view of US Patent No. 6,003,795 to Bown et al.

11. Regarding claim 17, Golley et al. in view of Johns et al. disclose a process of making kaolin pigment particles as recited in claims 14 and 16 as discussed in details above.

Golley et al. and Johns et al. do not expressly disclose grinding the medium in multiple stages.

Bown et al., drawn to finely ground particulate material such as pigment to be incorporated into paper coating compositions, disclose obtaining particles in which not less than 90% by weight having a particle size of less than 2  $\mu\text{m}$  in a multistage grinding process (column 1, lines 19-23; column 2, lines 55-56).

Therefore, it would have been obvious to modify Golley et al. in view of Johns et al. in order to include the multistage grinding as that taught by Bown et al. motivated by the fact that Bown et al. teach that for a suspension to reach to a level of having fine particles suitable to be used in paper coating pigment in which the particle size

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distribution is such that not less than 90% by weight have a particle size of less than 2 $\mu$ m (column 3, lines 15-16; column 4, lines 5-9, 28-31).

12. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Golley et al., in view of Johns et al. and further in view of US Patent No. 5,089,056 to Shi et al.

13. Regarding claim 19, Golley et al. in view of Johns et al. disclose kaolin pigment particles and the process of their production as recited in claim 14.

The references as combined do not disclose a bleaching agent.

Shi et al. disclose a pigment with improved light scattering properties which may be made from kaolin, in which during the process a leaching agent such as sodium hydrosulfite may be added to remove discoloring agents (column 1, lines 6-10, 55-68; column 2, lines 1-10).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify Golley et al. in view of Johns et al. in order to include a leaching agent such as sodium hydrosulfite as that taught by Shi et al. motivated by the fact that the leaching agent removes discoloring constituents and improves brightness and gloss (column 2, lines 1-10).



***Response to Amendment***

14. Applicants' amendment to claims 1, 6-7, and 14 in pages 2-4, filed on July 12, 2007 is acknowledged. However, they are not sufficient to overcome the rejection as set forth in the combination of the first Office Action and this Office Action.

***Response to Arguments***

15. Applicant's arguments filed July 10, 2007 have been fully considered but they are not persuasive. Therefore the grounds of rejection for claims 1-7, 10-11, 13, and 20-25 as set forth in the first Office Action stand.

16. Applicants have argued that Lyons et al. do not teach a shape factor of from "about" 26 to "about" 40 as set forth in the amended claims 1 and 14.

The examiner respectfully submits that the recitation of the language of "about" makes the limitation of the claims unclear. The specification, also, fails to further clarify what is the acceptable range for "about"; therefore, "25 or less" for shape factor as disclosed by Lyons et al. could read on the limitation of "about 26" as recited in claims 1 and 14.

17. Applicants have argued that the skilled artisan would not have been motivated combine the primary references with the secondary ones to obtain the subject matter recited in the pending claims.

The examiner respectfully submits that all the references used are from the same field of endeavor or problem solving and the motivations/reasons to combine were clearly pointed out in the rejections as set forth in the first Office Action.

18. Applicant's arguments, see page 9, filed July 10, 2007, with respect to the shape factor increase as disclosed by Golley et al. which is from 15-25 to at least 50, for claim 14, has been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Golley et al. in view of Johns et al. as discussed in details above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pegah Parvini whose telephone number is 571-272-2639. The examiner can normally be reached on Monday to Friday 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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PP



**J. A. LORENGO**  
**SUPERVISORY PATENT EXAMINER**